

WHAT IS CLAIMED IS:

1. A transmission comprising:
a rotary shaft;
a transmissive member coupled with the rotary shaft and
5 secured to the rotary shaft, the transmissive member having a first end
and a second end; and
a regulative member secured to the rotary shaft by press fitting
and press-contacts the first end of the transmissive member in such a
manner that the transmissive member is perpendicular to the rotary
10 shaft.
2. The transmission according to claim 1, further comprising a
screw screwed in the rotary shaft, the screw having a head, the head or
a washer for the screw applying pressure to the second end of the
15 transmissive member to press-contact the first end of the transmissive
member with the regulative member.
3. The transmission according to claim 1, wherein the regulative
member has a surface opposing to the first end of the transmissive
20 member, a part of the surface is formed as a regulative surface that
press-contacts the first end of the transmissive member, a part other
than the regulative surface of the surface of the regulative member is
formed as a no contacting surface that never contacts the transmissive
member.

25

4. The transmission according to claim 3, wherein the regulative surface is located outward in the radial direction from the regulative member relative to the no contacting surface.
- 5 5. The transmission according to claim 1, wherein at least three portions in the circumferential direction on the regulative member are protruded outward in the circumferential direction from the regulative member relative to other portions, the protruded portions having surfaces opposing to the first end of the transmissive member, each of
10 the surfaces is formed as a regulative surface that press-contacts the first end of the transmissive member.
6. The transmission according to claim 1, further comprising a relative rotation protector that protects the transmissive member from
15 rotating relative to the regulative member.
7. The transmission according to claim 6, wherein the relative rotation protector comprises a stepped screw that passes through the transmissive member and that is screwed in the regulative member.
20
8. The transmission according to claim 7, wherein the stepped screw is inserted through the second end of the transmissive member into the transmissive member, the stepped screw having a threaded portion, and the head of the stepped screw is configured not to apply
25 pressure on the second end of the transmissive member directly or via

a washer when the threaded portion of the stepped screw is fastened to the regulative member.

9. The transmission according to claim 6, wherein the relative
5 rotation protector comprises engagement protrusions that protrude from the first end of the transmissive member and arranged to engage the regulative member.

10. The transmission according to claim 9, wherein at least three
10 portions in the circumferential direction on the regulative member are protruded outward in the circumferential direction from the regulative member relative to other portions, the protruded portions having surfaces opposing to the first end of the transmissive member, the surfaces each formed as a regulative surface that press contacts the
15 first end of the transmissive member, and the transmissive member further comprises a plurality of engagement protrusions arranged in the circumferential direction of the transmissive member, each engagement protrusion positioned between the protruded portions to engage the protruded portion, respectively.

20

11. The transmission according to claim 6, wherein the relative rotation protector comprises projections that project from the regulative member and fitted with engagement holes formed in the transmissive member.

25

12. The transmission according to claim 1, wherein an outer circumference of the rotary shaft fitted with the transmissive member has a portion, in the axial direction of the rotary shaft, that contacts and fits with an inner circumference of a central bore in the transmissive member.

13. The transmission according to claim 12, wherein the outer circumference of the rotary shaft has a portion, located closer to the regulative member, that contacts and fits with the inner circumference of the central bore in the transmissive member.

14. The transmission according to claim 13, wherein the portion of the outer circumference of the rotary shaft that contacts and fits with the inner circumference of the central bore in the transmissive member has a length of equal to or less than 5 millimeters in the axial direction.

15. The transmission according to claim 1, wherein the regulative member is finished to form the regulative surface of the regulative member press contacting with the first end of the transmissive member, the regulative member composed of a stainless steel.

16. The transmission according to claim 1, wherein a rotator is secured around the rotary shaft to rotate integrally with the rotary shaft, rotations of the transmissive member being transmitted to the rotator.

17. The transmission according to claim 16, wherein the rotator comprises any one of a photosensitive drum, a transfer roller, a developing roller, a fixing roller, a recording medium conveyer roller, a support roller for supporting an image carrier belt, and a support roller
5 for supporting a recording medium conveyer belt that conveys a recording medium held thereon.

18. An image formation apparatus comprising a transmission that includes
10 a rotary shaft;
a transmissive member coupled with the rotary shaft and secured to the rotary shaft, the transmissive member having a first end and a second end; and
a regulative member secured to the rotary shaft by press fitting
15 and press-contacts the first end of the transmissive member in such a manner that the transmissive member is perpendicular to the rotary shaft.

19. The image formation apparatus according to claim 18, further
20 comprising a screw screwed in the rotary shaft, the screw having a head, the head or a washer for the screw applying pressure to the second end of the transmissive member to press-contact the first end of the transmissive member with the regulative member.

25 20. The image formation apparatus according to claim 18, wherein

the regulative member has a surface opposing to the first end of the transmissive member, a part of the surface is formed as a regulative surface that press-contacts the first end of the transmissive member, a part other than the regulative surface of the surface of the regulative member is formed as a no contacting surface that never contacts the transmissive member.

21. The image formation apparatus according to claim 20, wherein the regulative surface is located outward in the radial direction from the regulative member relative to the no contacting surface.

22. The image formation apparatus according to claim 18, wherein at least three portions in the circumferential direction on the regulative member are protruded outward in the circumferential direction from the regulative member relative to other portions, the protruded portions having surfaces opposing to the first end of the transmissive member, each of the surfaces is formed as a regulative surface that press-contacts the first end of the transmissive member.

23. The image formation apparatus according to claim 18, further comprising a relative rotation protector that protects the transmissive member from rotating relative to the regulative member.

24. The image formation apparatus according to claim 23, wherein the relative rotation protector comprises a stepped screw that passes

through the transmissive member and that is screwed in the regulative member.

25. The image formation apparatus according to claim 24, wherein
5 the stepped screw is inserted through the second end of the
transmissive member into the transmissive member, the stepped screw
having a threaded portion, and the head of the stepped screw is
configured not to apply pressure on the second end of the transmissive
member directly or via a washer when the threaded portion of the
10 stepped screw is fastened to the regulative member.

26. The image formation apparatus according to claim 23, wherein
the relative rotation protector comprises engagement protrusions that
protrude from the first end of the transmissive member and arranged to
15 engage the regulative member.

27. The image formation apparatus according to claim 26, wherein
at least three portions in the circumferential direction on the regulative
member are protruded outward in the circumferential direction from the
20 regulative member relative to other portions, the protruded portions
having surfaces opposing to the first end of the transmissive member,
the surfaces each formed as a regulative surface that press contacts
the first end of the transmissive member, and the transmissive member
further comprises a plurality of engagement protrusions arranged in the
25 circumferential direction of the transmissive member, each engagement

protrusion positioned between the protruded portions to engage the protruded portion, respectively.

28. The image formation apparatus according to claim 23, wherein
5 the relative rotation protector comprises projections that project from the regulative member and fitted with engagement holes formed in the transmissive member.

29. The image formation apparatus according to claim 18, wherein
10 an outer circumference of the rotary shaft fitted with the transmissive member has a portion, in the axial direction of the rotary shaft, that contacts and fits with an inner circumference of a central bore in the transmissive member.

15 30. The image formation apparatus according to claim 28, wherein the outer circumference of the rotary shaft has a portion, located closer to the regulative member, that contacts and fits with the inner circumference of the central bore in the transmissive member.

20 31. The image formation apparatus according to claim 30, wherein the portion of the outer circumference of the rotary shaft that contacts and fits with the inner circumference of the central bore in the transmissive member has a length of equal to or less than 5 millimeters in the axial direction.

25

32. The image formation apparatus according to claim 18, wherein the regulative member is finished to form the regulative surface of the regulative member press contacting with the first end of the transmissive member, the regulative member composed of a stainless steel.

33. The image formation apparatus according to claim 18, wherein a rotator is secured around the rotary shaft to rotate integrally with the rotary shaft, rotations of the transmissive member being transmitted to the rotator.

34. The image formation apparatus according to claim 33, wherein the rotator comprises any one of a photosensitive drum, a transfer roller, a developing roller, a fixing roller, a recording medium conveyer roller, a support roller for supporting an image carrier belt, and a support roller for supporting a recording medium conveyer belt that conveys a recording medium held thereon.

35. A method of manufacturing a transmission that includes a rotary shaft; a transmissive member coupled with the rotary shaft and secured to the rotary shaft, the transmissive member having a first end and a second end; and a regulative member secured to the rotary shaft by press fitting and press-contacts the first end of the transmissive member in such a manner that the transmissive member is perpendicular to the rotary shaft, the method comprising:

finishing a surface of the regulative member, after securing the regulative member to the rotary shaft and before securing the transmissive member to the rotary shaft, in such a manner that the surface press-contacts with the first end of the transmissive member.

5

36. The method according to claim 35, further comprising:

finishing a portion of an outer circumference of the rotary shaft, after securing the regulative member to the rotary shaft and before securing the transmissive member to the rotary shaft, in such a manner that that portion makes a contact with and fits into an inner circumference of a central bore in the transmissive member.

10

37. The method according to claim 35, wherein the step of securing the regulative member to the rotary shaft includes press fitting the regulative member with the rotary shaft.

15